1600

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: **US/10/072,622A**

DATE: 03/25/2003
TIME: 13:05:35

Input Set : **A:\331001.txt**
Output Set: **N:\CRF4\03252003\J072622A.raw**

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 4 <110> APPLICANT: Chen, Lieping
 5        Bajorath, Jurgen
 7 <120> TITLE OF INVENTION: ICOS Mutants
 9 <130> FILE REFERENCE: 07039-331001
11 <140> CURRENT APPLICATION NUMBER: US 10/072,622A
12 <141> CURRENT FILING DATE: 2002-02-07
14 <160> NUMBER OF SEQ ID NOS: 42
16 <170> SOFTWARE: FastSEQ for Windows Version 4.0
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 118
20 <212> TYPE: PRT
21 <213> ORGANISM: Mus musculus
23 <400> SEQUENCE: 1
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25 1               5                   10                  15
26 Phe Pro Cys Glu Tyr Ser Pro Ser His Asn Thr Asp Glu Val Arg Val
27             20                  25                  30
28 Thr Val Leu Arg Gln Thr Asn Asp Gln Met Thr Glu Val Cys Ala Thr
29             35                  40                  45
30 Thr Phe Thr Glu Lys Asn Thr Val Gly Phe Leu Asp Tyr Pro Phe Cys
31     50                  55                  60
32 Ser Gly Thr Phe Asn Glu Ser Arg Val Asn Leu Thr Ile Gln Gly Leu
33 65                  70                  75                  80
34 Arg Ala Val Asp Thr Gly Leu Tyr Leu Cys Lys Val Glu Leu Met Tyr
35                 85                  90                  95
36 Pro Pro Pro Tyr Phe Val Gly Met Gly Asn Gly Thr Gln Ile Tyr Val
37             100                 105                 110
38 Ile Asp Pro Glu Pro Cys
39         115
41 <210> SEQ ID NO: 2
42 <211> LENGTH: 118
43 <212> TYPE: PRT
44 <213> ORGANISM: Rattus norvegicus
46 <400> SEQUENCE: 2
47 Val Thr Gln Pro Ser Val Val Leu Ala Ser Ser His Gly Val Ala Ser
48 1               5                   10                  15
49 Phe Pro Cys Glu Tyr Ala Ser Ser His Asn Thr Asp Glu Val Arg Val
50             20                  25                  30
51 Thr Val Leu Arg Gln Thr Asn Asp Gln Val Thr Glu Val Cys Ala Thr
52             35                  40                  45
53 Thr Phe Thr Val Lys Asn Thr Leu Gly Phe Leu Asp Asp Pro Phe Cys
54     50                  55                  60
55 Ser Gly Thr Phe Asn Glu Ser Arg Val Asn Leu Thr Ile Gln Gly Leu
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56 65                    70                 75                  80
57 Arg Ala Ala Asp Thr Gly Leu Tyr Phe Cys Lys Val Glu Leu Met Tyr
58                  85                 90                 95
59 Pro Pro Pro Tyr Phe Val Gly Met Gly Asn Gly Thr Gln Ile Tyr Val
60              100                105                110
61 Ile Asp Pro Glu Pro Cys
62          115
64 <210> SEQ ID NO: 3
65 <211> LENGTH: 118
66 <212> TYPE: PRT
67 <213> ORGANISM: Homo sapiens
69 <400> SEQUENCE: 3
70 Val Ala Gln Pro Ala Val Val Leu Ala Ser Ser Arg Gly Ile Ala Ser
71  1               5                 10                 15
72 Phe Val Cys Glu Tyr Ala Ser Pro Gly Lys Ala Thr Glu Val Arg Val
73              20                 25                 30
74 Thr Val Leu Arg Gln Ala Asp Ser Gln Val Thr Glu Val Cys Ala Ala
75          35                 40                 45
76 Thr Tyr Met Met Gly Asn Glu Leu Thr Phe Leu Asp Asp Ser Ile Cys
77       50                 55                 60
78 Thr Gly Thr Ser Ser Gly Asn Gln Val Asn Leu Thr Ile Gln Gly Leu
79 65                   70                 75                  80
80 Arg Ala Met Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr
81                  85                 90                 95
82 Pro Pro Pro Tyr Tyr Leu Gly Ile Gly Asn Gly Thr Gln Ile Tyr Val
83              100                105                110
84 Ile Asp Pro Glu Pro Cys
85          115
87 <210> SEQ ID NO: 4
88 <211> LENGTH: 118
89 <212> TYPE: PRT
90 <213> ORGANISM: Bos taurus
92 <400> SEQUENCE: 4
93 Val Ser Gln Pro Ala Val Val Leu Ala Ser Ser Arg Gly Val Ala Ser
94  1               5                 10                 15
95 Phe Val Cys Glu Tyr Ala Ser Ser His Lys Ala Thr Glu Val Arg Val
96              20                 25                 30
97 Thr Val Leu Arg Gln Ala Asn Ser Gln Met Thr Glu Val Cys Ala Met
98          35                 40                 45
99 Thr Tyr Thr Val Glu Asn Glu Leu Thr Phe Ile Asp Asp Ser Thr Cys
100      50                 55                 60
101 Thr Gly Ile Ser His Gly Asn Lys Val Asn Leu Thr Ile Gln Gly Leu
102 65                   70                 75                  80
103 Ser Ala Met Asp Thr Gly Leu Tyr Ile Cys Lys Val Glu Leu Met Tyr
104                 85                 90                 95
105 Pro Pro Pro Tyr Tyr Val Gly Met Gly Asn Gly Thr Gln Ile Tyr Val
106             100                105                110
107 Ile Glu Pro Glu Pro Cys
108         115
```

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Input Set : A:\331001.txt
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110 <210> SEQ ID NO: 5
111 <211> LENGTH: 119
112 <212> TYPE: PRT
113 <213> ORGANISM: Mus musculus
115 <400> SEQUENCE: 5
116 Val Lys Gln Ser Pro Leu Leu Val Val Asp Ser Asn Glu Val Ser Leu
117  1               5                   10                  15
118 Ser Cys Arg Tyr Ser Tyr Asn Leu Leu Ala Lys Glu Phe Arg Ala Ser
119             20                  25                  30
120 Leu Tyr Lys Gly Val Asn Ser Asp Val Glu Val Cys Val Gly Asn Gly
121             35                  40                  45
122 Asn Phe Thr Tyr Gln Pro Gln Phe Arg Ser Asn Ala Glu Phe Asn Cys
123         50                  55                  60
124 Asp Gly Asp Phe Asp Asn Glu Thr Val Thr Phe Arg Leu Trp Asn Leu
125 65                  70                  75                  80
126 His Val Asn His Thr Asp Ile Tyr Phe Cys Lys Ile Glu Phe Met Tyr
127                 85                  90                  95
128 Pro Pro Pro Tyr Leu Asp Asn Glu Arg Ser Asn Gly Thr Ile Ile His
129             100                 105                 110
130 Ile Lys Glu Lys His Leu Cys
131         115
133 <210> SEQ ID NO: 6
134 <211> LENGTH: 119
135 <212> TYPE: PRT
136 <213> ORGANISM: Rattus norvegicus
138 <400> SEQUENCE: 6
139 Val Lys Gln Ser Pro Leu Leu Val Val Asp Asn Asn Glu Val Ser Leu
140  1               5                   10                  15
141 Ser Cys Arg Tyr Ser Tyr Asn Leu Leu Ala Lys Glu Phe Arg Ala Ser
142             20                  25                  30
143 Leu Tyr Lys Gly Val Asn Ser Asp Val Glu Val Cys Val Gly Asn Gly
144             35                  40                  45
145 Asn Phe Thr Tyr Gln Pro Gln Phe Arg Pro Asn Val Gly Phe Asn Cys
146         50                  55                  60
147 Asp Gly Asn Phe Asp Asn Glu Thr Val Thr Phe Arg Leu Trp Asn Leu
148 65                  70                  75                  80
149 Asp Val Asn His Thr Asp Ile Tyr Phe Cys Lys Ile Glu Val Met Tyr
150                 85                  90                  95
151 Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His
152             100                 105                 110
153 Ile Lys Glu Lys His Leu Cys
154         115
156 <210> SEQ ID NO: 7
157 <211> LENGTH: 119
158 <212> TYPE: PRT
159 <213> ORGANISM: Bos taurus
161 <400> SEQUENCE: 7
162 Val Lys Gln Ser Pro Met Leu Val Val Asn Asn Asn Glu Val Asn Leu
163  1               5                   10                  15
```

```
164 Ser Cys Lys Tyr Thr Tyr Asn Leu Phe Ser Lys Glu Phe Arg Ala Ser
165         20                  25                  30
166 Leu Tyr Lys Gly Ala Asp Ser Ala Val Glu Val Cys Val Val Asn Gly
167         35                  40                  45
168 Asn Phe Ser His Pro His Gln Phe His Ser Thr Thr Gly Phe Asn Cys
169         50                  55                  60
170 Asp Gly Lys Leu Gly Asn Glu Thr Val Thr Phe Tyr Leu Lys Asn Leu
171 65                  70                  75                  80
172 Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys Lys Ile Glu Val Met Tyr
173                 85                  90                  95
174 Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His
175         100                 105                 110
176 Val Lys Glu Gln His Phe Cys
177         115
179 <210> SEQ ID NO: 8
180 <211> LENGTH: 119
181 <212> TYPE: PRT
182 <213> ORGANISM: Homo sapiens
184 <400> SEQUENCE: 8
185 Val Lys Gln Ser Pro Met Leu Val Ala Tyr Asp Asn Ala Val Asn Leu
186 1               5                   10                  15
187 Ser Cys Lys Tyr Ser Tyr Asn Leu Phe Ser Arg Glu Phe Arg Ala Ser
188         20                  25                  30
189 Leu His Lys Gly Leu Asp Ser Ala Val Glu Val Cys Val Val Tyr Gly
190         35                  40                  45
191 Asn Tyr Ser Gln Gln Leu Gln Val Tyr Ser Lys Thr Gly Phe Asn Cys
192         50                  55                  60
193 Asp Gly Lys Leu Gly Asn Glu Ser Val Thr Phe Tyr Leu Gln Asn Leu
194 65                  70                  75                  80
195 Tyr Val Asn Gln Thr Asp Ile Tyr Phe Cys Lys Ile Glu Val Met Tyr
196                 85                  90                  95
197 Pro Pro Pro Tyr Leu Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His
198         100                 105                 110
199 Val Lys Glu Lys His Leu Cys
200         115
202 <210> SEQ ID NO: 9
203 <211> LENGTH: 112
204 <212> TYPE: PRT
205 <213> ORGANISM: Mus musculus
207 <400> SEQUENCE: 9
208 Ala Asp His Arg Met Phe Ser Phe His Asn Gly Gly Val Gln Ile Ser
209 1               5                   10                  15
210 Cys Lys Tyr Pro Asp Ile Val Gln Gln Leu Lys Met Arg Leu Phe Arg
211         20                  25                  30
212 Glu Arg Glu Val Leu Cys Glu Leu Thr Lys Thr Lys Gly Ser Gly Asn
213         35                  40                  45
214 Ala Val Ser Ile Lys Asn Pro Met Leu Cys Leu Tyr His Leu Ser Asn
215         50                  55                  60
216 Asn Ser Val Ser Phe Phe Leu Asn Asn Pro Asp Ser Ser Gln Gly Ser
```

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Input Set : A:\331001.txt
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```
217 65                    70                    75                    80
218 Tyr Tyr Phe Cys Ser Leu Ser Ile Phe Asp Pro Pro Pro Phe Gln Glu
219              .        85                    90                    95
220 Arg Asn Leu Ser Gly Gly Tyr Leu His Ile Tyr Glu Ser Gln Leu Cys
221             100                   105                   110
223 <210> SEQ ID NO: 10
224 <211> LENGTH: 111
225 <212> TYPE: PRT
226 <213> ORGANISM: Homo sapiens
228 <400> SEQUENCE: 10
229 Ala Asn Tyr Glu Met Phe Ile Phe His Asn Gly Gly Val Gln Ile Leu
230 1                    5                    10                   15
231 Cys Lys Tyr Pro Asp Ile Val Gln Gln Phe Lys Met Gln Leu Leu Lys
232             20                    25                    30
233 Gly Gly Gln Ile Leu Cys Asp Leu Thr Lys Thr Lys Gly Ser Gly Asn
234             35                    40                    45
235 Thr Val Ser Ile Lys Ser Leu Lys Phe Cys His Ser Gln Leu Ser Asn
236     50                    55                    60
237 Asn Ser Val Ser Phe Phe Leu Tyr Asn Leu Asp His Ser His Ala Asn
238 65                    70                    75                    80
239 Tyr Tyr Phe Cys Asn Leu Ser Ile Phe Asp Pro Pro Pro Phe Lys Val
240              85                    90                    95
241 Thr Leu Thr Gly Gly Tyr Leu His Ile Tyr Glu Ser Gln Leu Cys
242             100                   105                   110
244 <210> SEQ ID NO: 11
245 <211> LENGTH: 6
246 <212> TYPE: PRT
247 <213> ORGANISM: Homo sapiens
249 <400> SEQUENCE: 11
250 Met Tyr Pro Pro Pro Tyr
251 1                   5
253 <210> SEQ ID NO: 12
254 <211> LENGTH: 199
255 <212> TYPE: PRT
256 <213> ORGANISM: Homo sapiens
258 <400> SEQUENCE: 12
259 Met Lys Ser Gly Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys
260 1                    5                    10                   15
261 Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
262             20                    25                    30
263 Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
264             35                    40                    45
265 Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
266     50                    55                    60
267 Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
268 65                    70                    75                    80
269 Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
270              85                    90                    95
271 Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
```

VERIFICATION SUMMARY   DATE: 03/25/2003
PATENT APPLICATION: **US/10/072,622A**   TIME: 13:05:37

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